SEMESTER END EXAMINATION, MAY 2024

Course Name: - B. Tech
Paper Name: - PYTHON PROGRAMMING

Semester: - 6th
Paper Code: - TCS 603

Time - 3Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. Max Marks-70

समय – 3 घण्टे 20 मिनट प्रति घंटे अतिरिक्त–दृष्टिबाधित एवं सहलेखक परीक्षार्थियों के लिए। अधिकतम अंक–70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **03** marks. All questions are compulsory.

  Section B- Answer any **5 out of 7** given questions in maximum hundred **(150) words**. Each question carries **7 marks**.
- Section C- Answer any **2 out of 3** given questions in maximum one hundred fifty **(500) words**. Each question carries **10 marks**.

निर्देश:

- प्रश्न पत्र में तीन खण्ड अ, ब, व स हैं। सभी खण्ड अनिवार्य हैं।
- खण्ड–अ में प्रत्येक प्रश्न 3 अंक का है। सभी प्रश्न अनिवार्य हैं।
- खण्ड–ब में 7 प्रश्नों में से किन्हीं 5 प्रश्नों के उत्तर अधिकतम **पचास** (150) शब्दों में दें। प्रत्येक प्रश्न 7 अंक का है।
- खण्ड–स में 3 प्रश्नों में से किसी 2 प्रश्न के उत्तर अधिकतम **एक सौ पचास** (500) शब्दों में दें। प्रत्येक प्रश्न 10 अंक का है।

Section – A खण्ड–अ

Objective Questions (वस्तुनिष्ठप्रश्न)

1. **Answer all the following questions.** **5×3=15**

निम्नलिखित सभी प्रश्न अनिवार्य हैं।

(i) Which of the following constructs allows you to handle multiple conditions in Python?

A) if-else statements
B) for loop
C) while loop
D) try-except block

(ii) Which loop is best suited for iterating over a sequence of elements?

A) while
B) for
C) do-while
D) foreach

(iii) How do you define a function in Python?

A) def function_name(parameters):
B) function function_name(parameters):
C) function_name(parameters) {
D) create function_name(parameters):

Scanned with OKEN Scanner

(iv) What will x = [1, 2, 3]; y = x; y.append(4); print(x) output?

A) [1, 2, 3, 4]
B) [1, 2, 3]
C) [4, 1, 2, 3]
D) [1, 2, 3, 4] in a new list

(v) What will be the output of the following code? a = 10; b = a; a = 20; print(b)

A) 10
B) 20
C) None
D) Error

Section – B खण्ड–ब

Short Answer Questions (लघुउत्तरीय प्रश्न)

2.Answer any five of the following questions in maximum 150 words. **5×7=35**

निम्नलिखित में से किन्हीं 5 प्रश्नों के उत्तर अधिकतम 150 शब्दों में दें।

(i) Briefly describe the data types in Python. How does a list differ from a tuple in Python?

(ii) What is slicing in Python? Differentiate between break, continue and pass in Python

(iii) State the concept of factorial with example. WAP to print factorial of a given number.

(iv) What is inheritance in Python? State different types of inheritance with examples.

(v) Explain the different types of operators in Python, providing examples for each.

(vi) What is an exception in Python? Describe the general mechanism of handling exceptions.

(vii) Create a Python function that takes a list of numbers and returns the maximum and minimum values. Include error handling to manage any exceptions.

Section – C खण्ड–स

Descriptive Questions (विवरणात्मकप्रश्न)

3.Answer any 02 question of the following question in maximum 500 words. **2×10=20**

निम्नलिखित में से किन्हीं 2 प्रश्न के उत्तर अधिकतम 500 शब्दों में दें।

(i) Discuss the concept of file handling in Python. What are the advantages and disadvantages of file handling in Python? Additionally, describe the various operations that can be performed during file handling.

(ii) Describe the control flow mechanisms in Python in detail, including conditionals and loops with example.

(iii) Create a Python program that calculates the average of a list of integers entered by the user. After calculating the average, the program should compare it with a threshold value (e.g., 50) and print whether the average is above or below the threshold. Handle any exceptions that occur during input and calculation.

.....

Scanned with OKEN Scanner